

THE OLD MASSACHUSETTS HERBARIUM

R. E. TORREY AND E. L. DAVIS

IN the attic of Clark Hall at the University of Massachusetts there has long been stored an old herbarium which was sent to us from the State House in Boston "many years ago." In 1911, when the senior author was an undergraduate in botany at the College, Dr. George E. Stone, then department head, directed him to go through the collection and to insert loose labels, bringing the names into accord with those of the 7th edition of Gray's Manual. In 1914 Mr. F. G. Floyd visited the college, made a hasty examination of the collection, and identified it as the basis for Item No. 126 in Miss Day's List of Local Floras of New England. This particular item refers to a list of plants cited in the 7th Annual Report of the Massachusetts Board of Agriculture for 1859, printed in Boston in 1860. On page 139, under the heading of "Secretary's Report" (the secretary being C. L. Flint) occurs the following paragraph:

"Constant efforts have been made to build up the State Cabinet, the object being to make a collection illustrating all branches of the natural history and the agriculture of the Commonwealth, and many valuable additions have been made to it during the past year, the aggregate number of specimens exceeding three thousand.

"It is gratifying to be able to state that the interest in the cabinet has largely increased as its practical value has become more and more manifest. A catalogue of the plants will be found in the Appendix. In other departments the additions, though not so extensive, are nevertheless valuable and interesting."

The "Appendix" to which reference is made occurs on pages III–XII of the same Report; it is headed "Catalogue of Plants," and a preliminary word reads:

"Most of the plants enumerated in the following list were collected by Dr. Edward Jarvis and Charles Jarvis and deposited in the Cabinet by the former. A portion was collected by Dr. Henry Little of Boston, and presented to the Cabinet by Dr. Charles Pickering. These collections have been examined and arranged by Charles J. Sprague, and owing to the number of duplicate specimens, it has not been thought necessary to catalogue them separately. In addition to the above named collections, many acquisitions have been added during the present year."

Then follows a list of 401 genera and 773 species of vascular plants.

In an article published in RHODORA,¹ Mr. Floyd tells us that the later history of the "Massachusetts Cabinet" had been forgotten until, almost by accident, he learned that the Herbarium had been sent to the Agricultural College in Amherst, where he verified the report by personal inspection. We might mention in passing that the zoological and geological collections appear likewise to have had the same disposal and are now housed in Fernald Hall at the University.

The present State Herbarium, located in Clark Hall, has been expanding in the last decade and just as rapidly as straitened finances make the change possible, is being transferred from old wooden cases to steel ones for safer storage. In the expansion and reorganization, several collections, long stored in the attic for lack of cabinet space, have been incorporated, and the old "Massachusetts Herbarium" has again received attention. Examination showed that some of the specimens were detaching from the sheets, that the writing on the original labels was sometimes faded and close to illegibility, and that specimens had sometimes gotten into wrong folders. Part of the plants are loose in the species folders; others are fastened with strips of gummed paper to a once-folded sheet of primitive-looking paper which is coarse-textured, gray, flexible and deckle-edged. The labels are apparently cut from old letters; they are irregular in shape and wholly inconsistent in size and recorded data. Many bear only the Latin name—rarely the authority is cited, though Linnaeus and Michaux sometimes appear, and we now realize that *Ph.* means Pursh, and *Ew.* means Bigelow. Even the place of collecting, the collector, and the date are all too commonly lacking. "B.G." apparently means "Botanic Garden," and would certainly seem appropriate for a specimen of *Passiflora caerulea* which is so labeled. The collection likewise includes a small set of unsorted garden flowers with no data at all.

In the recent restoration we have made sure that the original labels are securely gummed to the sheets and that every scrap of the original data is preserved. We have also attached a new label bearing (1) the name of the plant as given in the 8th edition of Gray's Manual, and (2) a faithfully typed transcript of the original label. To decipher some of the faded, minuscule, and

¹ Floyd, F. G. The Rediscovery of a Historic Collection of Massachusetts Plants. RHODORA 16: 185-187, 1914.

often wretched handwriting with the puzzling abbreviations, has required the use of a reading glass and considerable guesswork, particularly as to the proper and place names. The classification, as would be expected, is Linnaean. The numbers 6.3 on a *Lilium* label, for example, obviously means *Hexandria Trigynia*.

After working over the collection for several weeks, the junior author set himself to search for the source and early history of the plants. He has come upon data which show that it is a rather notable historical document for Massachusetts taxonomists.

The first historical reference to the "State Cabinet," of which our Herbarium was once a part, occurs on page 95 in the Report of the Secretary of Agriculture of Massachusetts for 1855, where mention is made of a room in the State House which is being prepared to accommodate it. At this time it already contained several thousand specimens, most of which were minerals. The Report for 1856 (pages 5-6) tells us that such a room has now been provided, but no appropriation has been made to furnish it. The Secretary, C. L. Flint, likewise makes appropriate recognition of the gift of various specimens of grasses during the year. So we may infer that the year 1856 marks the beginning of the botanical collection of the "Cabinet." In the 1857 Report, page 230, we are informed that: "A room has been fitted up to receive the State Cabinet, now of three to four thousand specimens of various sorts." And again the grasses are mentioned, among them "a beautiful specimen of feathergrass from Mrs. Peck of Roxbury."

In 1858, we are given a list of the minerals and birds, and in the "Appendix" the names of Dr. Edward Jarvis and Dr. Charles Pickering are mentioned as "contributing collections which were received too late to list in this Report."

The Report for 1859 is particularly important because we are there told the names of several men, some of whose contributions we have been able to identify from the labels on the sheets. This is the passage which we have already quoted and upon which Miss Day based her Item No. 126.

The Massachusetts Agricultural College was incorporated in 1863, but it was not till October 2, 1867 that the college was

formally opened to students under the presidency of the botanist-horticulturist, Col. W. S. Clark. Once more the Massachusetts Cabinet enters the picture. In the Report of the Secretary of Agriculture for 1866 we find the following record: "Resolved: that the Secretary of the Board be instructed to remove the State Cabinet to the Agricultural College, when the trustees of that Institution indicate to him their readiness to receive and care for the same."

From President Clark's Report to the Trustees for 1867 we learn that the "Cabinet" has apparently survived the journey from Boston to Amherst, and we read: "They have erected a dormitory 100 x 50 feet and four stories high, with a basement for fuel. This edifice, besides rooms for one professor and 46 students, contains two recitation rooms, a reading room and library, and two large rooms occupied by the State Cabinet of specimens illustrating the natural history and geology of Massachusetts."

A picture is given of this building which was called South Dormitory. It was burned in 1885 and on its site stands the present Administration Building.

In 1869 the college purchased the W. W. Denslow Collection of 15,000 specimens of plants, but the old State Herbarium was not incorporated in it—a fortunate circumstance since it would have been hopelessly scattered. Later references in Clark's Reports speak of the danger of destruction by fire and of the great "value of the Collection for purposes of instruction."

We may now turn our attention to the several names which appear on some of the ancient labels, or to those others which we have discovered to be in some manner intimately connected with the old Herbarium. The most important are Dr. Edward Jarvis, Dr. Charles Jarvis, Dr. Henry Little and Dr. Henry Bigelow.

Dr. Edward Jarvis, son of Francis Jarvis and Melicent (Hosmer) Jarvis, was born in Concord in 1803. He graduated from the Harvard Medical School, practiced in Northfield, Massachusetts from 1830 to 1832, resided in Concord from 1832 to 1837; practiced in Louisville, Kentucky from 1837 to 1842, and finally established residence in Dorchester from 1842 to 1884. He published a *Physiology and Hygiene* in 1846, an *Elementary*

Physiology in 1848 and a *Primary Physiology for Schools* in 1849. It is to Edward Jarvis that we must attribute many of our specimens.

Charles Jarvis was the older brother of Edward, and his "C. J." appears on some of the labels. We could discover nothing about him till we finally appealed to the Concord Librarian, Miss Sarah R. Bartlett, who kindly furnished the following information: Charles Jarvis was born in Concord on November 7, 1800. He graduated from Harvard in 1821 and took his medical degree in Boston in 1825. He settled in Bridgewater, but after practicing only three months developed malignant tumor and died in his father's home on February 23, 1826 at the age of 25. It is all but impossible to separate the contributions of the two brothers. Even those which bear the "C. J." initials may have been labeled by Edward after his brother's death. Determinative dates are rare and most of them which occur fall in the 30's. This would mean obviously that they are Edward's contributions.

The following transcripts taken at random show how nicely they correspond to the biography of the Concord Jarvises.

- Tilia Glabra* (*T. americana* L.), Lime Tree. Bass Wood. Northfield, Bank of Connecticut. (Dr. E. Jarvis practiced there in 1830–32).
Hibiscus Trionum (*H. Trionum* L.), Bladder Petunia. Flower-of-an-Hour. Cultivated Concord, August 1830.
Ornithogalum Umbellatum (*O. umbellatum* L.), Concord, East of Miss J. Heywood's.
Orchis Tridentata (*Habenaria clavellata* (Michx.) Spreng.), Low woods west of Cyrus Hosmer's, Concord with C. Field.
Orchis Blephariglottis (*Habenaria blephariglottis* (Willd.) Hook.) Woods west of Elijah Stevens, Concord, 30th July, 1834.
Potamogeton Natans (prob. *P. gramineus* L.), Probably a variety of the *Potamogeton Natans*. Found in a ditch in low ground west of Ben Hosmer's barn, near the woods—no flowers, July 30, 1834.
Medeola Virginica (*M. virginica* L.), Craigies wood, 13 June, Cambridge.
Silene Antirrhinum Ph. (*S. antirrhina* L.), Said to be used by Chimney Birds. Viscous below leaves. Hospital Yard. Sandy Soil. June 17.
Alsine media (Nutt.) (*Stellaria media* (L.) Cyrill) Chickweed, Hospital Yard, Boston, 16 June, 1824. [This must be one of Charles' specimens]

There are likewise references to Brighton Meadows; Oak Island; Chelsea; Pine Hill, Medford; Tewksbury; Cambridgeport; Lincoln, near Flint's Pond; etc.

There is a second set of specimens in the Collection whose labels are written in a minute handwriting. They sometimes carry the botanical family name in ornamental lettering and are commonly attributed to "N. H." with the date 1823. Many of them were lying loose among the unattached plants until we decided that for safety they should be gummed to the sheets. We believe that these are the "portion—collected by Dr. Henry Little of Boston, and presented to the Cabinet by Dr. Charles Pickering." Dr. Henry Little is referred to in Bigelow's *Florula Bostoniensis*, 2nd and 3rd editions, as "my pupil, H. Little." Pickering was a practicing physician in Boston who is known to have made botanical excursions in the White Mountains, possibly with William Oakes. He was chief zoologist of the U. S. Exploring Expedition to the South Seas under Lt. Charles Wilkes. Asa Gray likewise refers to these collecting trips to New Hampshire; he attributes the earlier ones to Manassah Cutler, Dr. Francis Boot and Dr. Bigelow, and says that Pickering and William Oakes are believed likewise to have collected in the White Mountains. Since Little was Bigelow's student, it is safe to attribute these plants of 1823 to one of these New Hampshire trips. The following are transcripts of a few of the Little labels:

Ledum latifolium (*L. groenlandicum* Oeder). Labrador Tea. White Hills, N. H. Aug., 1823.

Andropogon furcatus (*A. Gerardi* Vitman), Meadow, N. H. Aug. 1823.

Oxalis acetosella (*O. montana* Raf.), Woods, N. H. Woods on the W. Hills Aug., 1823.

Finally there has come to light another interesting connection with Dr. Bigelow's work. Dr. Jacob Bigelow was a physician at the Massachusetts General Hospital; he was the founder of Mt. Auburn Cemetery, the compiler of a medical botany which passed through several editions, and finally the author of *Florula Bostoniensis*, the 1st edition appearing in 1814. In 1824 he put out a 2nd and enlarged edition of the work, to cover all of New England, while a 3rd edition appeared in 1840. It was the standard New England Manual before Asa Gray's 1st edition of 1848. It is in the 2nd edition, 1824, that numerous acknowledgements are made to Messrs. B. D. Greene and Henry Little for their reports of stations where the plants occur. Some

of these plants have undoubtedly been passing through our hands this summer, as may be inferred from the following parallel quotations:

1. *Fl. Bost.* Edit. 2, 1824. *Ranunculus filiformis* Mx. Filiform Crowfoot.
Syn. *Ranunculus reptans*.
Low grounds, Topsfield, Bartlett, New Hampshire.
Label in Old Herbarium (probably by Little):
R. reptans.
filiformis Mx. F. B. 224
Topsfield, near hotel, Aug. 1823
(Neither *R. reptans* nor *R. filiformis* appear in Bigelow's *Flor. Bost.* Edit. 1 of 1814. Little collected it in Topsfield the year before Bigelow's 2nd edition appeared. The line "*filiformis* Mx. F. B. 224" on Little's label has clearly been added *after the appearance of Bigelow's* 2nd edition in 1824.)
2. *Fl. Bost.* Edit. 2, 1824. *Ranunculus Cymbalaria* Ph. Sea Crowfoot
Salt Marshes Chelsea, Cambridge
Label in Old Herbarium. *Ranunculus Cymbalaria*
Chelsea, Brighton, C. River Salt Marsh
(*Ranunculus Cymbalaria* is not in *Flor. Bost.* Edit. 1.)
3. *Fl. Bost.* Edit. 2, 1824. *Viola debilis* Mx.
Concord Turnpike in Cambridge
Label in Old Herbarium. *Viola Debilis*. Moist woods, Concord
Turnpike and also from Concord Turnpike,
W. Cambridge
4. *Fl. Bost.* Edit. 2, 1824. *Arbutus Uva Ursi* L.
Location, Blue Hills, Milton.
Label in Old Herbarium. *Arbutus Uva Ursi*
Blue Hills, Medford
(There is no mention of the Blue Hills in *Flor. Bost.* Edit. 1, 1814)

In Bigelow's 2nd edition certain species are likewise included which were not mentioned in the 1st edition, and which were found by Little in 1823 though not specifically attributed to him. Such are:

1. *Fl. Bost.* Edit. 2, 1824. *Ledum Latifolium*—location Monadnock,
White Mts.
Little's label in Old Herbarium. *Ledum latifolium*, White Hills,
N. H. Aug. 1823
2. *Fl. Bost.* Edit. 2, 1824. *Ranunculus pennsylvanicus* L.
Little's label. *Ranunculus pennsylvanicus* from Greenland, N. H.,
1823

Many of Bigelow's species of *Rubus* cited as coming from N. H. appear first in the 2nd edition, and our *Rubus* labels by Little carry the term "White Hills," 1823, but without specific names.

But probably the most interesting item in this connection is the following note which Bigelow includes under *Stellaria borealis*: "This plant generally occurs without petals, in which state I discovered it on the White Mt. in July, 1816. I have received it several times from the same place, but always in the apetalous state, until the last year (1823) when Messrs. Greene and Little found it there in August with complete flowers."

Bigelow himself named the plant which has now become the variable *Stellaria calycantha* (Ledeb.) Bong. There is a specimen of it in the Old Collection, and in Little's handwriting we have the words: "White Hills specimen." This doubtless makes it the "type" of the petaloid *S. calycantha*.

We have already noted that Dr. Bigelow refers to B. D. Greene, Esq. of Tewksbury in connection with Henry Little. The following labels bear the initials "B.D.G." and tell their own story:

Andromeda polifolia—Tewksbury. B.D.G.

Trifolium agrarium. B.D.G. (This is a carefully written label bearing a diagram of the flower.)

We can, therefore, infer that Dr. Jacob Bigelow availed himself generously of all these records, and the evidence is conclusive that in the old Massachusetts State Herbarium, once a part of the "Massachusetts Cabinet," we have some of the original plants which passed through his hands in preparation for the 2nd edition of his *Florula Bostoniensis* of 1824, and which were collected by Henry Little, B. D. Greene, and possibly Charles Jarvis. It is an interesting relic of the pre-Grayan systematic botany of New England.—UNIVERSITY OF MASSACHUSETTS, AMHERST, MASS.